

Claims

1. A data encryption system comprising:
 - a memory system having an array of random data and a plurality of
 - 5 encryption/decryption algorithms; and
 - a first controller operable to read said first memory system and to select a portion of said array based upon a starting point and to utilize said portion of said array in at least one of said plurality of encryption/decryption algorithms.
- 10 2. A data encryption system as recited in claim 1, further comprising:
 - a second memory system having said array of random data and said plurality of encryption/decryption algorithms; and
 - a second controller operable to read said second memory system and to select said
 - 15 portion of said array based upon said starting point and to utilize said portion of said array in at least one of the plurality of encryption/decryption algorithms.
3. A data encryption system as recited in claim 1, wherein said starting point is based upon a key code input to said first processor.
- 20 4. A data encryption system as recited in claim 2, wherein said starting point is based upon a key code input to said first processor.
5. A data encryption system as recited in claim 1, wherein said key code includes at least one of a public key and a private key.
- 25 6. A data encryption system as recited in claim 1, wherein said portion of said array includes at least one byte identifying a length of data to be encrypted.

7. A data encryption system as recited in claim 1, wherein said portion of said array includes at least one byte identifying at least one of said plurality of encryption/decryption algorithms.
- 5 8. A data encryption system as recited in claim 1, wherein said portion of said array includes at least one byte identifying a third address value.
9. A data encryption system as recited in claim 1, wherein said first processor includes a first controller and a first encryptor/decryptor.
- 10 10. A data encryption system as recited in claim 2, wherein said second processor includes a second controller and a second encryptor/decryptor.
11. A data encryption system as recited in claim 1, wherein said data includes at least one
15 of analog video, analog audio, digital video, digital audio and digital information.
12. A data encryption system as recited in claim 2, wherein said first processor is coupled to at least one of said first electronic media, said second processor via an electronic network.
- 20 13. A data encryption system as recited in claim 12, wherein said computer network supports at least one of Ethernet, Internet protocol (IP), WAN protocol and LAN protocol.
14. A data encryption system as recited in claim 12, wherein said computer network includes at least one of cable, microwave, wireless, LASER and infra red (IR) connections.
- 25 15. A data encryption system as recited in claim 12, wherein said electronic network includes a computer network utilizing a secure sockets layer (SSL) encryption.

16. A data encryption system as recited in claim 2, wherein said first and said second memory system includes a first electronically readable media accessible by said first controller, said first controller having said plurality of encryption/decryption algorithms stored within said first controller on a third electronically readable media, and a second electronically readable media accessible by said second controller, said second controller having said plurality of encryption/decryption algorithms stored on a fourth electronically readable media.

17. A data encryption system as recited in claim 16, wherein said first electronically readable media and said second electronically readable media includes at least one of a CDROM, DVD, hard disk, magneto-optical storage media, optical storage media, magnetic media, website and a computer memory storage location on a remote computer.

18. A data encryption system as recited in claim 16, wherein said first and second electronically readable are the same electronically readable media.

19. A data encryption system as recited in claim 2, wherein said first processor is coupled to at least one of said first electronic media, said second processor via a wireless telephone network.

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20. A video encryption system comprising:

an electronically readable media having an array of random data;

an order device operable to input a key code to a first video processor;

said first video processor having a plurality of encryption/decryption algorithms, said

first video processor operable to read said electronically readable media and to select a portion of said array based upon a starting point and to utilize said portion of said array in at least one of said plurality of said encryption/decryption algorithms, and to output said portion of said array to a second video processor;

a set top box ;

said second video signal processor operable to utilize said portion of said array in at least one of said plurality of encryption/decryption algorithms;

said first video processor is coupled to at least one of said electronic media and said second video processor via an electronic network; and

5 a display device.

21. A data encryption system comprising:

a first electronically readable media having an array of random data wherein said first electronically readable media includes at least one of a CDROM, DVD, hard disk, magneto-
10 optical storage media, optical storage media, magnetic media;

a first processor operable to read said first electronically readable media and to select a portion of said array based upon a starting point and to utilize said portion of said array in at least one of a plurality of encryption/decryption algorithms;

a second electronically readable media having said array of random data, wherein said
15 second electronically readable media includes at least one of a CDROM, DVD, hard disk, magneto-optical storage media, optical storage media, magnetic media; and

a second processor operable to read said second electronically-readable media and to select said portion of said array based upon said starting point and to utilize said portion of said array in at least one of said plurality of encryption/decryption algorithms, said first
20 processor is coupled to at least one of said electronic media and said second processor via a computer network.

22. A data encryption system comprising:

an electronically readable media having an array of random data, wherein said
25 electronically readable media includes at least one of a website and a computer memory storage location on a remote computer;

a first processor operable to read said first electronically readable media and to select a portion of said array based upon a starting point and to utilize said portion of said array in at least one of a plurality of encryption/decryption algorithms; and

a second processor operable to read said electronically-readable media and to select said portion of said array based upon said starting point and to utilize said portion of said array in at least one of said plurality of encryption/decryption algorithms, said first processor is coupled to said second processor via a computer network.

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23. A data encryption method comprising:

inputting a key code into a first processor, said first processor determining a first computed address and a control data length based upon said key code;

10 retrieving a plurality of control data bytes stored at said first computed address in an array of random data, said array of random data stored on a first memory system;

determining a second address and an encryption data length based upon said control data;

retrieving a plurality of encryption data bytes stored at said second address in said first memory system;

15 identifying at least one of a plurality of encryption/decryption algorithms based upon the control data;

inputting a quantity of data into said first processor; and

utilizing said encryption data and said identified encryption/decryption algorithm and said quantity of data to output a quantity of encrypted data.

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24. A data encryption method as recited in claim 23, further comprising:

inputting said key code into said first processor, said first processor determining said first computed address and said control data length based upon said key code;

25 retrieving said plurality of control data bytes stored at said first computed address in an array of random data, said array of random data stored on a first memory system;

determining said second address and said encryption data length based upon said control data;

retrieving said plurality of encryption data bytes stored at said second address in said first memory system;

identifying at least one of a plurality of encryption/decryption algorithms based upon the control data;

inputting a quantity of encrypted data into said first processor; and

utilizing said encryption data and said identified encryption/decryption algorithm and

5 said quantity of encrypted data to output a quantity of decrypted data.

25. A data encryption method as recited in claim 24, wherein said first memory system includes a first electronically readable media accessible by said first processor, said first processor having said plurality of encryption/decryption algorithms stored within said first
10 processor on a second electronically readable media.

26. A data encryption method as recited in claim 24, wherein said processor includes at least one of a first controller, a second controller, a first encryptor/decryptor and a second encryptor/decryptor.
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27. A data encryption method as recited in claim 26, wherein said first controller is coupled to at least one of said second controller, said first encryptor/decryptor and said second encryptor/decryptor via an electronic network.

20 28. A data encryption method as recited in claim 27, further comprising:
inputting a key code into said second controller, said second controller determining a first computed address and a control data length based upon said key code;

retrieving a plurality of control data bytes stored at said first computed address in an array of random data, said array of random data stored on a first memory system;
25 determining a second address and an encryption data length based upon said control data;
data;

retrieving a plurality of encryption data bytes stored at said second address in said first memory system;

identifying at least one of a plurality of encryption/decryption algorithms based upon the control data;

inputting a quantity of data into said second controller;

utilizing said encryption data and said identified encryption/decryption algorithm and
5 said quantity of data to output a quantity of encrypted data; and

transmitting said encrypted data to said first controller, wherein said transmitting of encrypted data to said first controller is performed simultaneously with the output of encrypted data from said first controller.

10 29. A data encryption method as recited in claim 26, wherein said first controller is coupled to at least one of said second controller, said first encryptor/decryptor and said second encryptor/decryptor via a computer network.

30. A data encryption method as recited in claim 26, wherein said first controller is
15 coupled to at least one of said second controller, said first encryptor/decryptor and said second encryptor/decryptor via a wireless telephone network.

31. A data encryption method as recited in claim 23, wherein said array of random data is a reduced array.

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32. A data encryption method as recited in claim 31, wherein said reduced array is a racetrack array.

33. A data encryption method as recited in claim 31, wherein said first processor outputs
25 said reduced array via an electronic network.

34. A data encryption method as recited in claim 23, wherein said key code includes at least one of a public key and a private key.

35. A data encryption method as recited in claim 23, wherein said data includes at least one of analog video, analog audio, digital video, digital audio, analog data and digital information.
- 5 36. A data encryption method as recited in claim 28, wherein said computer network supports at least one of Ethernet, Internet (IP) protocol, WAN protocol and LAN protocol.
37. A data encryption method as recited in claim 28, wherein said computer network includes at least one of cable, microwave, wireless, LASER and infra red (IR) connections.
- 10 38. A data encryption method as recited in claim 24, wherein said first memory system includes at least one of a CDROM, DVD, hard disk, magneto-optical storage media, optical storage media, magnetic media, website and a computer memory storage location on a remote computer.
- 15 39. A method to encrypt and decrypt video comprising:
 inputting a key code into a first processor, said first processor determining a first computed address and a control data length based upon said key code;
 retrieving a reduced array from an array of random data;
 20 retrieving a plurality of control data bytes stored at said first computed address in the reduced array;
 determining a second address and an encryption data length based upon said control data;
 retrieving a plurality of encryption data bytes stored at said second address in said
 25 reduced array;
 identifying at least one of a plurality of encryption/decryption algorithms based upon the control data;
 inputting a quantity of video data into said first processor;

utilizing said encryption data and said identified encryption/decryption algorithm and said quantity of data to output a quantity of encrypted video data;

transmitting said reduced array, said control data bytes and said encrypted video data to a second processor;

5 determining said second address and said encryption data length based upon said control data;

retrieving said plurality of encryption data bytes stored at said second address in said reduced array;

10 identifying at least one of a plurality of encryption/decryption algorithms based upon the control data;

inputting a quantity of encrypted video data into said second processor; and

utilizing said encryption data and said identified encryption/decryption algorithm and said quantity of encrypted video data to output a quantity of decrypted video data.

15 40. A method to encrypt and decrypt video as recited in claim 37, wherein said reduced array includes a racetrack array.

41. A data encryption method comprising:

20 inputting a key code into a first processor, said first processor determining a first computed address and a control data length based upon said key code;

retrieving a plurality of control data bytes stored at said first computed address in an array of random data, said array of random data stored on a first electronically readable media, wherein said first electronically readable media includes at least one of a CDROM, DVD, hard disk, magneto-optical storage media, optical storage media, magnetic media;

25 determining a second address and an encryption data length based upon said control data;

retrieving a plurality of encryption data bytes stored at said second address in said random array of data;

identifying at least one of a plurality of encryption/decryption algorithms based upon the control data;

inputting a quantity of data into said first processor;

utilizing said encryption data and said identified encryption/decryption algorithm and
 5 said quantity of data to output a quantity of encrypted data, said encrypted data transmitted via a computer network to a second processor;

inputting said key code into said second processor, said second processor determining said first computed address and said control data length based upon said key code;

retrieving said plurality of control data bytes stored at said first computed address in
 10 an array of random data, said array of random data stored on a second electronically readable media, wherein said second electronically readable media includes at least one of a CDROM, DVD, hard disk, magneto-optical storage media, optical storage media, magnetic media;

determining said second address and said encryption data length based upon said control data;

15 retrieving said plurality of decryption data bytes stored at said second address in said array of random data;

identifying at least one of a plurality of encryption/decryption algorithms based upon the control data;

inputting a quantity of encrypted data into said first processor; and

20 utilizing said decryption data and said identified encryption/decryption algorithm and said quantity of encrypted data to output a quantity of decrypted data.

42. A data encryption method comprising:

inputting a key code into a first processor, said first processor determining a first
 25 computed address and a control data length based upon said key code;

retrieving a plurality of control data bytes stored at said first computed address in an array of random data, said array of random data stored on an electronically readable media, wherein said electronically readable media includes at least one of a website and a computer

memory storage location on a remote computer, wherein said electronically readable media is coupled to said first processor via a computer network;

determining a second address and an encryption data length based upon said control data;

5 retrieving a plurality of encryption data bytes stored at said second address in said array of random data;

identifying at least one of a plurality of encryption/decryption algorithms based upon the control data;

10 retrieving said identified encryption/decryption algorithm from said electronically readable media;

inputting a quantity of data into said first processor;

utilizing said encryption data and said identified encryption/decryption algorithm and said quantity of data to output a quantity of encrypted data, said encrypted data transmitted via a computer network to a second processor;

15 inputting said key code into said second processor, said second processor determining said first computed address and said control data length based upon said key code;

retrieving said plurality of control data bytes stored at said first computed address in an array of random data, said array of random data stored on said electronically readable media;

20 determining said second address and said encryption data length based upon said control data;

retrieving said plurality of decryption data bytes stored at said second address in said array of random data;

identifying at least one encryption/decryption algorithm based upon the control data;

25 retrieving said identified encryption/decryption algorithm from said electronically readable media;

inputting a quantity of encrypted data into said second processor; and

utilizing said decryption data and said identified encryption/decryption algorithm and said quantity of encrypted data to output a quantity of decrypted data.